

Product: WHEEL TRACTOR

Model: 621F WHEEL TRACTOR 8PL

Configuration: 621F Wheel Tractor-Scraper 8PL00001-UP (MACHINE) POWERED BY 3406C Engine

## Disassembly and Assembly 3406C DIESEL ENGINES FOR CATERPILLAR BUILT MACHINES

Media Number -SEN6409-02

Publication Date -01/07/2006

Date Updated -19/05/2015

SEN64090022

### Rocker Shaft Assemblies & Push Rods

SMCS - 1102; 1208-011; 1208-012

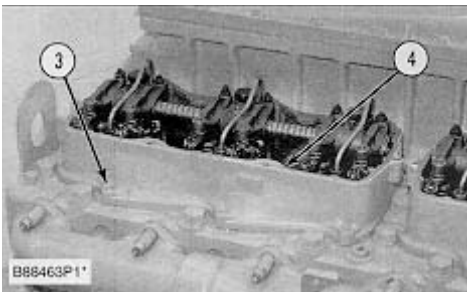
### Remove Rocker Shaft Assemblies & Push Rods

| Tools Needed |                  | A | B |
|--------------|------------------|---|---|
| 5P0144       | Socket           | 1 |   |
| 5P5195       | Fuel Line Wrench |   | 1 |

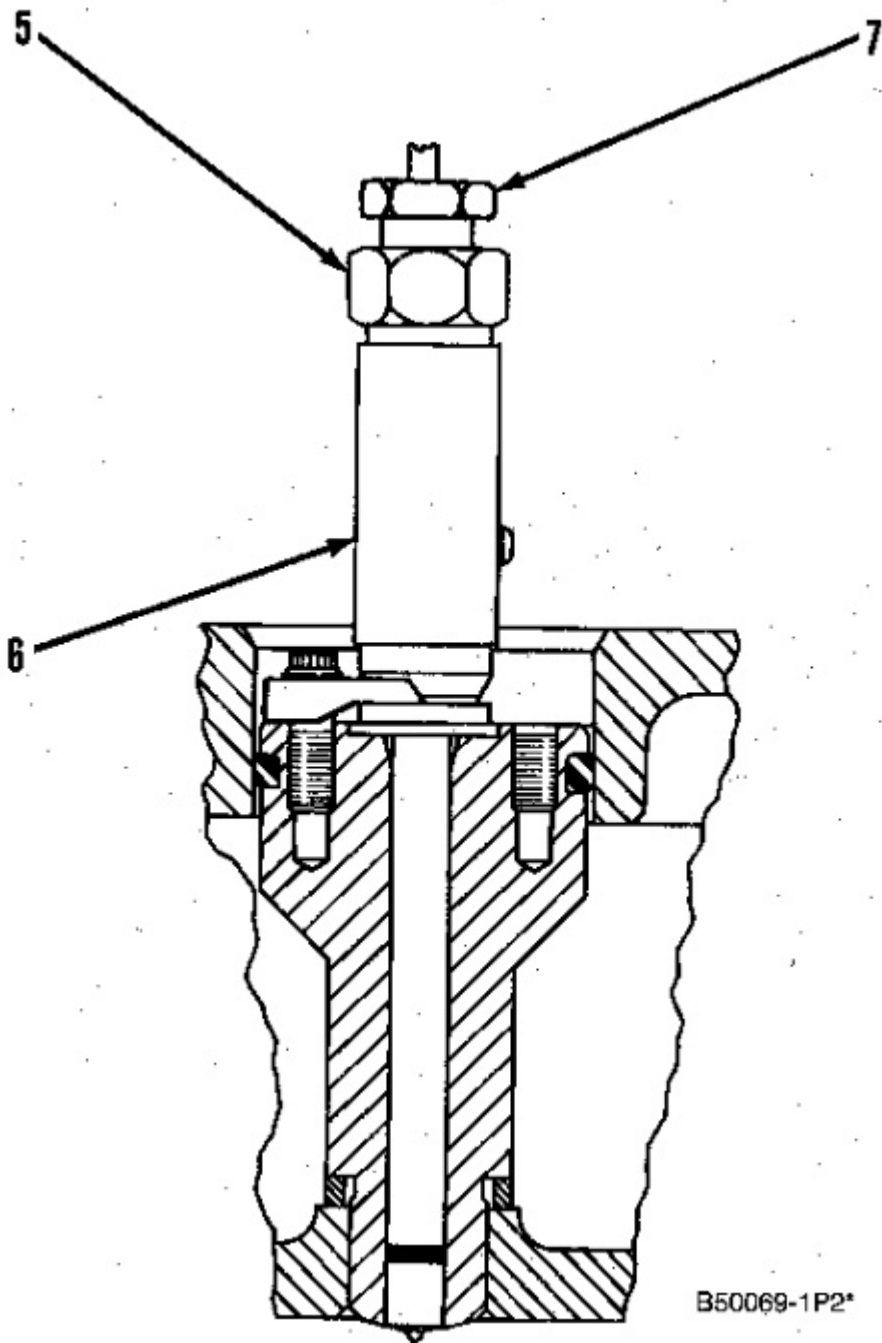
Start By:

a. remove valve covers

**NOTE:** Call out (1) and (2) are not used in this removal procedure. Call outs begin with number (3).



1. Remove bolts (3) that hold the valve cover bases to the cylinder head assembly. Remove valve cover bases (4).

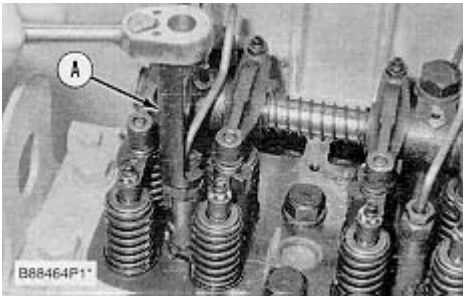


---

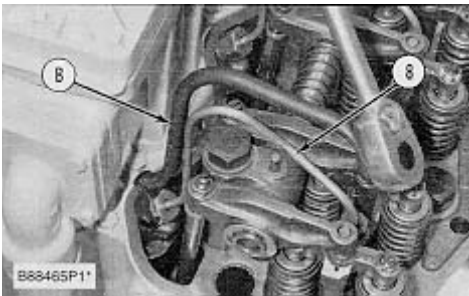
### NOTICE

To prevent damage to the fuel injection nozzle, hold adapter assembly (5) in position at the of injection nozzle (6) when fuel line nut (7) is loosened or tightened.

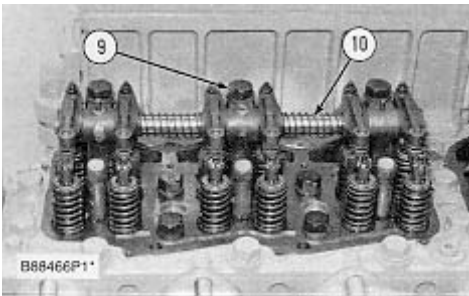
---



2. Use Tool (A) and a 7/8 **5P0328 Crow Foot (in)** to loosen the fuel injection line nut at the nozzle end.

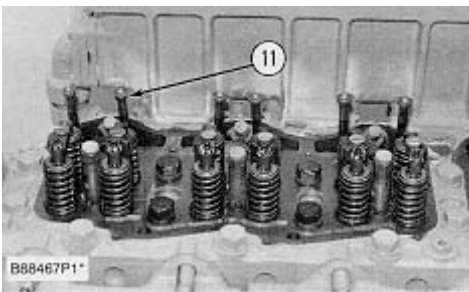


3. Use Tool (B) to loosen the nut at the fuel injection line adapter end. Remove inner fuel injection lines (8). Install caps and plugs on all fuel injection line openings to keep dirt out of the fuel system.

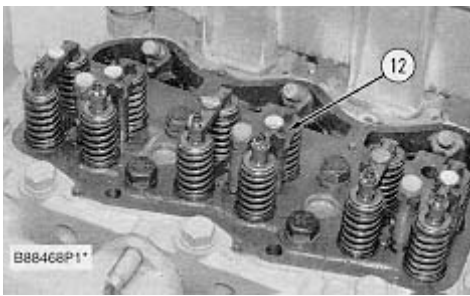


4. Remove bolts (9) that hold the rocker shaft assemblies to the cylinder head assembly.

5. Remove rocker shaft assemblies (10).



6. Put identification marks on the push rods as to their location in the engine. Remove push rods (11).



7. Put identification marks on the bridges as to their location in the engine. Remove bridges (12) from the dowels on the cylinder head assembly.

## Install Rocker Shaft Assemblies & Push Rods

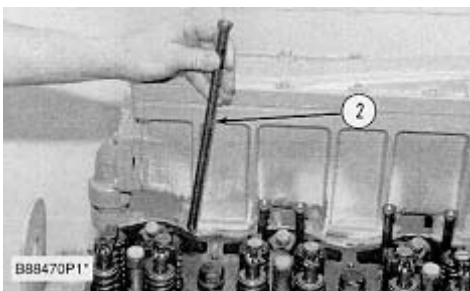
| Tools Needed |                  | A | B |
|--------------|------------------|---|---|
| 5P5195       | Fuel Line Wrench | 1 |   |
| 5P0144       | Socket           |   | 1 |



1. Put clean engine oil on the bridges and dowels.

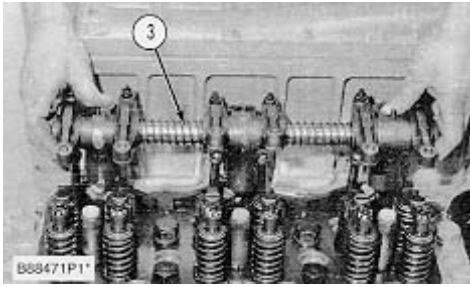
**NOTE:** Install the original bridges in their respective locations. New bridges can be mixed.

2. Install bridges (1) on the bridge dowels. While firmly pressing **0.5 to 4.5 kg (1 to 10 lb)** straight down on the top contact surface of the bridge, turn the adjusting screw clockwise until contact is made with the valve stem. Turn the screw an additional **1/31/2 20 to 30 degrees (to of 1 hex on nut)**. This will straighten the dowel in the guide and compensate for the slack in the threads. Hold the adjusting screw in this position and tighten the locknut to a torque of **30 ± 4 N·m (22 ± 3 lb ft)**.



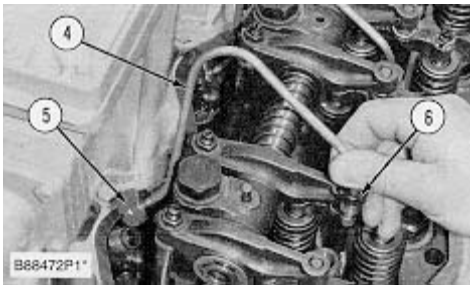
**NOTE:** Install the original push rods in their respective locations in the engine. New push rods can be mixed.

3. Install push rods (2).



4. Put rocker shaft assemblies (3) in position on the cylinder head assembly.

5. Put clean engine oil on the threads of the bolts that hold the rocker shaft assemblies in place. Tighten the bolts first to a torque of  $270 \pm 25 \text{ N}\cdot\text{m}$  ( $200 \pm 18 \text{ lb ft}$ ). Start with the bolt in the center of the rocker shaft assembly. Tighten the bolts again to a torque of  $450 \pm 20 \text{ N}\cdot\text{m}$  ( $330 \pm 15 \text{ lb ft}$ ). Tighten the bolts again by hand to a torque of  $450 \pm 20 \text{ N}\cdot\text{m}$  ( $330 \pm 15 \text{ lb ft}$ ).



---

### NOTICE

**Do not cause damage to the O-ring seals on the inner fuel lines.**

---

6. Install inner fuel injection lines (4). Tighten the fuel injection line adapter nuts (5) to a torque  $40 \pm 7 \text{ N}\cdot\text{m}$  ( $30 \pm 5 \text{ lb ft}$ ) with Tool (A).

---

### NOTICE

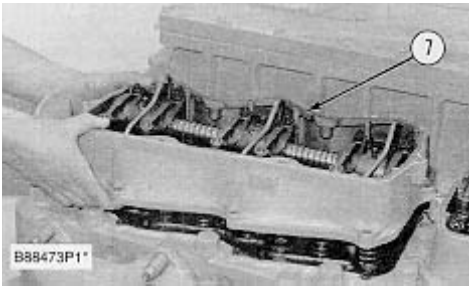
**Do not let the tops of the fuel nozzles turn when the fuel lines are tightened. The nozzles will be damaged if the top of the nozzles turns in the body.**

---

7. Tighten fuel injection line nut (6) to a torque of  $40 \pm 7 \text{ N}\cdot\text{m}$  ( $30 \pm 5 \text{ lb ft}$ ) with Tool (B) and a  $7/8$  5P0328 (in) Crow Foot wrench.

8. Make adjustments to the valves until the intake valve clearance is  $0.38 \text{ mm}$  ( $.015 \text{ in}$ ) and the exhaust valve clearance  $0.76 \text{ mm}$  ( $.030 \text{ in}$ ). See the topic "Valve Clearance Setting" in Testing &

Adjusting Manual SENR6471. Tighten the locknut to a torque of  **$30 \pm 4 \text{ N}\cdot\text{m}$  ( $22 \pm 3 \text{ lb ft}$ )** and check the adjustments.



**9.** Install valve cover bases (7) on the cylinder head assembly. Install bolts that hold the valve cover bases in place. Tighten the bolts to a torque of  **$14 \pm 3 \text{ N}\cdot\text{m}$  ( $10 \pm 2 \text{ lb ft}$ )**.

End By:

**a.** install valve covers

---



**Download the full PDF manual instantly.**

**Our customer service e-mail:**

**[aservicemanualpdf@yahoo.com](mailto:aservicemanualpdf@yahoo.com)**